Remarks

The above Amendments and these Remarks are in reply to the Office Action mailed September 6, 2002. Applicants note that the fee for addition of new claims 62-81 was previously paid (Check No. 60633 in the amount of $780.00) when the Third Preliminary Amendment was originally submitted on August 26, 2002. Applicants are now also adding new claims 82-92. The fee for these claims (i.e., claims 82-92) is included herewith.

Claims 25-61 were pending in the Application prior to the outstanding Office Action. In the Office Action, the Examiner rejected claims 25-61. The present Response amends claims 25, 35, 37, 40, 41, 44, 54, 57, 58, and 61 and adds new claims 62-92, leaving for the Examiner's present consideration claims 25-92. Reconsideration of the rejections is requested. Applicants note that claims 40 and 57 were amended to more accurately define the orientation of the louvers.

I. Claim Rejections Under 35 U.S.C. § 112

Claims 35, 37 and 54 were rejected under 35 U.S.C. § 112, second paragraph, for providing insufficient antecedent basis for certain terms. These claims have been amended to overcome this rejection. Such amendment do not narrow the scope of these claims in any way. Applicants respectfully request that the 35 U.S.C. § 112, second paragraph rejection of these claims be withdrawn.

II. Double Patenting Rejections

Claims 25, 26, 28, 38, 40 and 42 were rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-2, 7-8, 12-13 and 17-18 of co-pending application no. 09/897,267.

Claims 25-26, 28, 38 and 41-43 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-2 and 4-5 of co-pending application no. 10/023,197.

Claims 25-26, 28, 33 and 41-43 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1, 4-6, 11-13, 16, 21 and 23 of U.S. Patent No. 5,975,090.

Claims 25-26, 28, 33 and 41-43 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 12 and 17-19 of U.S. Patent No. 6,176,977.

Claims 25-26, 28, 33, 38 and 41-43 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1, 3, 7-8, 12, 14 and 17-22 of U.S. Patent No. 6,312,507.

To remove the double patenting rejection, the Examiner suggested the filing of a Terminal Disclaimer in the present application. While Applicants agree that the filing of a Terminal Disclaimer would remove the rejection, Applicants respectfully submit that the filing of a Terminal Disclaimer at the present time would be premature. This is for at least the reason that the filing of a Terminal Disclaimer would not ensure the patentability of claims that have also been rejected on other grounds (i.e., those claims rejected under 35 U.S.C. § 103).

If in the future all pending claims of the present application are rejected under obviousness-type double patenting, and are otherwise allowable (i.e. no further grounds of rejection remain), Applicants will consider the filing of a Terminal Disclaimer at that time upon recommendation by the Examiner.

III. Claim Rejections Under 35 U.S.C. § 103

Claims 25-33, 35-37, 39, 41-52, 54-56 and 58-61 have been rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No. 5,578,112 to Krause.

Claims 34, 40, 53 and 57 have been rejected under 35 U.S.C. 102(a) as allegedly being unpatentable over Krause in view of U.S. Patent No. 5,315,838 to Thompson.

Claims 38 and 60 have been rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Krause in view of U.S. Patent No. 5,196,171 to Peltier.

A. Claims 25-43

Independent claim 25, as amended, is reproduced below for the convenience of the Examiner.

25. An electro-kinetic air transporter-conditioner system comprising:

an upstanding, elongated housing with an air inlet vent and an air outlet vent;

an ion generating unit positioned in said housing, said ion generating unit having a plurality of pin-ring electrode configurations located one above the other; and

each of said pin-ring electrode configurations including a first pin electrode that is directed toward an opening in a second ring electrode.

Claim 25 specifies "an upstanding, elongated housing." It was asserted in the Office Action that the enclosure 12 or the duct 2 shown in FIG. 1 of Krause teach an "upstanding, elongated housing with an air inlet vent and an air outlet vent." Applicants respectfully disagree. The ordinary meaning of the term "upstanding" is as erect or upright. E.g., *see* Webster's New Collegiate Dictionary , G. & C. Meriam Co., Springfield Massachusetts, pg. 1286 (1976).

The alleged housings of Krause, either enclosure 12 or duct 2, are not upstanding. Rather, both enclosure 12 and duct 2 are horizontal, which is the opposite of upstanding. The housings of Krause are

arranged as they are because the apparatus of Krause is meant to be placed within heating and air-conditioning ducts (see Krause, column 2, lines 61). In contrast, the upstanding elongated housing of claim 25 is something that can be easily moved by a user to a desired location within a desired room. Such an upstanding elongated housing is beneficial because it takes up minimal space within a room as compared to a horizontal housing (in other words, the footprint of an upstanding housing is much less than that of a horizontal housing). Thus, the upstanding elongated housing of claim 25 can more readily disappear (i.e., not stand out) and is much less obtrusive than a horizontal housing.

Claim 25 also specifies "a plurality of pin-ring electrode configurations located one above the other; and each of said pin-ring electrode configurations including a first pin electrode that is directed toward an opening in a second ring electrode."

The alleged pin electrodes of Krause (wire ionizing electrodes 28), are not directed toward the opening of ring 30 (see Krause FIG. 1). Rather, the wire ionizing electrodes 28 are directed at the inner surface of ring 30, which is perpendicular to the opening of ring 30. This will result in "an ionic wind 29 (shown using broken outline), between the tips of ionizing electrodes 28a, 28b, 28c, 28d, and the ring 30." (*See* Krause, column 4, lines 17-20.) In contrast, the pin-ring configuration described in Claim 25 will produce airflow through the opening in each ring.

It is admitted in the Office Action that Krause "does not teach a plurality of ring electrodes corresponding to the pin electrodes." However, *In re Harza* was relied upon in the Office Action for the proposition that "mere duplication of parts has no patentable significance." (*See* page 7 of the Office Action.) Applicants representative has reviewed *In re Harza* and asserts that this case actually states that "a mere duplication of parts has no patentable significance *unless a new and unexpected result is produced*" (emphasis added). Applicants assert that the plurality of pin-ring configurations of claim 25 produce better airflow and increased particulate cleaning than the arrangement of Krause. Also, the locating of the pin-ring

electrode configurations "one above the other" as specified in claim 25 enables the plurality of pin-ring electrode configurations to fit within the "upstanding, elongated housing" of claim 25 (some benefits of an upstanding, elongated housing are discussed above). Further, the locating of the pin-ring electrode configurations "one above the other" as specified in claim 25 produces an airflow in a horizontal direction, over an increased vertical area.

For at least the reasons discussed above, Applicants respectfully request that the 35 U.S.C. 103 rejection of claim 25 be withdrawn.

Claims 26-43

Claims 26-43 depend from and add additional features to claim 25. For at least the reasons discussed above, Applicants assert that these claims are patentable over Krause. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of these claims be withdrawn. Applicants also assert that these claims are patentable for the features they add, some of which are discussed below.

Claims 26 and 27

With regards to claims 26 and 27, *In re Dailey* is relied upon in the Office Action for the proposition that "the shape of the electrodes would have been an obvious design choice." (*See* page 7 of the Office Action.) Applicants' representative has reviewed *In re Dailey* and points out that the applicant in that case presented no argument that their specific configuration was significant. In the present case, the present Applicants points out that the specification specifically states that "the distal tip (or emitting tip) of electrode 232 is advantageously small to concentrate the electric field between electrode arrays." (*See* Applicants' specification, page 22, lines 33-36.) In other words, Applicants' configuration of the pin electrode is significant. From FIG. 1 of Krause it is clear that electrodes 28a are neither pointed nor triangular. For at

least these additional reasons, Applicants respectfully request that the 35 U.S.C. 103 rejection of claims 26-27 be withdrawn.

Claim 35

Claim 35 adds the feature of "a user control located on a top of said housing." In the Office Action, it was asserted that this is taught by FIG. 1 of Krause (*see* page 8 of the Office Action). Applicants respectfully disagree. It is clear from the detailed description of Krause, as explained above, that the apparatus of Krause is to be placed within the heating and air conditioning ducts of a building. Thus, a user control located on a top of the apparatus of Krause would not be user accessible. Referring to FIG. 1 of Krause, the user control 38 is shown as being connected to transformer 10 by a broken line. This merely means that user control 38 is electrically connected to transformer 10. This in no way teaches or suggest that the user control 38 is on top of Krause's apparatus, because, as explained above, the controls in such a position would be unaccessible.

In contrast, the user control in Applicants' invention is placed on a top of the upstanding elongated housing to make it easier for a user to access the control. In other words, the user control in Applicants' invention is placed at the top of the housing to minimize the amount that a user must bend down to reach the control. For at least the above reasons, Applicants assert that Krause does not teach the features of claim 35, and respectfully request that the 35 U.S.C. 103 rejection of this claim be withdrawn.

Claim 41

Claim 41, as amended, specifies that "each said second ring electrode has a flat surface generally facing said first pin electrode, and transitioning smoothly and continuously from said flat surface, a second surface surrounding a periphery of said opening to form a skirt region surrounding said opening." As

explained in Applicants' specification, the flat surface provides sufficient surface area for pariculate matter to attach, yet be readily cleaned (*see* Applicants' specification, page 21, line 35 - page 22, line 2). As also explained in Applicants' specification, the skirt region as described advantageously provides many equidistant inter-electrode paths (*see* Applicants' specification, page 22, line 33 - page 23, line 1). Accordingly, this specific configuration is significant. For at least these additional reasons, Applicants respectfully request that the 35 U.S.C. 103 rejection of claim 41 be withdrawn.

C. Claims 44-60

Independent claim 44, is reproduced below for the convenience of the Examiner.

> 44. An electro-kinetic air transporter-conditioner system comprising:
>
> an upstanding, elongated housing with an air inlet vent and an air outlet vent;
>
> said inlet vent and said outlet vent being elongated along a length of said elongated housing;
>
> an ion generating unit positioned in said housing, said ion generating unit having a pin-ring electrode configuration; and
>
> the pin-ring electrode configuration including a first pin electrode that is directed in a downstream direction toward an opening in a second ring electrode.

For at least the same reasons discussed above with regards to claim 25, Applicants assert that Krause does not teach or suggest an "upstanding, elongated housing." For reasons similar to those discussed above with regards to claim 25, Applicants assert that Krause does not teach or suggest that "a first pin electrode

that is directed in a downstream direction toward an opening in a second ring electrode." Accordingly, for at least the reasons, Applicants assert that the 35 U.S.C. 103 rejection of claim 44 be withdrawn.

Claims 45-60

Claims 45-60 depend from and add additional features to claim 44. For at least the reasons discussed above, Applicants assert that these claims are patentable over Krause. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of these claims be withdrawn. Applicants also assert that these claims are patentable for the features they add. For example, Applicants assert that Krause does not teach or suggest the features of claims 45 and 46 for at least the reasons discussed above with respect claims 26 and 27. Further, Applicants assert that Krause does not teach or suggest the features of claim 58 for at least the reasons discussed above with respect to claim 41.

D. Claim 61

Applicants respectfully request that the 35 U.S.C. 103(a) rejection of independent claim 61 be withdrawn for many of the same reasons discussed above with respect to claims 25 and 35. For example, claim 61 is patentable for at least the reasons that Krause does not teach or suggest "an upstanding, elongated housing" or "a user operated control located on the top of said housing." Further, Krause does not teach or suggest that the electrode configurations are "located one above the other in an elongated manner," which enables them to fit in the upstanding, elongated housing, resulting in space efficient system (some of the benefits of which are discussed with regards to claim 25).

IV. Conclusion

In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and a Notice of Allowance is requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: Nov 13, 2002

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APPENDIX

In the Claims:

1-24. (Previously Canceled)

25. (Once Amended) An electro-kinetic air transporter-conditioner system comprising:

an upstanding, elongated housing with an air inlet vent and an air outlet vent;

an ion generating unit positioned in said housing, said ion generating unit having a plurality of pin-ring electrode configurations located one above the other; and

each of said pin-ring electrode configurations including a first pin electrode that is directed toward an opening in a second ring electrode.

35. (Once Amended) The system of claim 25 including a user control located on [said] a top of said housing.

37. (Once Amended) The system of claim 25 wherein said inlet vent and said [exhaust] outlet vent are elongated along a length of said elongated housing.

40. (Once Amended) The system of claim 25 wherein said air inlet vent and said air outlet vent have louvers that are directed generally perpendicular to [across] a vertical direction of elongation of said housing.

41. (Once Amended) The system of claim 25 wherein each said second ring electrode has a flat surface generally facing said first pin electrode, and transitioning smoothly and continuously from said flat surface, a second surface surrounding a periphery of said opening to form a skirt region surrounding [an] said opening.

44. (Once Amended) An electro-kinetic air transporter-conditioner system comprising:

an upstanding, elongated housing with an air inlet vent and an air outlet vent;

said inlet vent and said outlet vent being elongated along a length of said elongated housing;

an ion generating unit positioned in said housing, said ion generating unit having a pin-ring electrode configuration; and

the pin-ring electrode configuration including a first pin electrode that is directed in a downstream direction toward an opening in a second ring electrode.

54. (Once Amended) The system of claim 44 including a user control located on [said] a top of said housing.

57. (Once Amended) The system of claim 44 wherein said air inlet vent and said air outlet vent have louvers that are directed generally perpendicular to [across] a vertical direction of elongation of said housing.

58. (Once Amended) The system of claim 44 wherein each said second ring electrode has a flat surface generally facing said first pin electrode, and transitioning smoothly and continuously from said flat

surface, a second surface surrounding a periphery of said opening to form a skirt region surrounding [an] said opening.

61. (Once Amended) An electro-kinetic air transporter-conditioner system comprising:

an upstanding, elongated housing with a top and an air inlet vent and an air outlet vent;

said air inlet vent is elongated along a direction of elongation of said housing;

said air outlet vent is elongated along the direction of elongation of said housing;

an ion generating unit positioned in said housing, said ion generating unit having a plurality of pin-ring electrode configurations located one above the other in an elongated manner; and

a user operated control located on the top of said housing.

Claims 62 - 92 are newly added.